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Original Lectures.

ON DIABETES MELLITUS.

FOUR LECTURES DELIVERED IN THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF CHICAGO, BY C. E. LANING, M. D., PROFESSOR OF THEORY AND PRACTICE, AND OF CLINICAL MEDICINE.

LECTURE IV.—TREATMENT.*

Podophyllum is useful in those cases of diabetes in which the liver is decidedly deranged as a result of congestion of the same. There is almost always a great deal of mental depression, the patient is morose and irritable and fears that he is not going to get well. He complains much of his head, it feels dull and heavy, with occasional sharp, shooting pains about the temples and the base of the brain. The tongue, almost universally dry in diabetes, is often quite moist in the podophyllum patient, although usually quite dry and foul-tasting in the morning.

The evident hepatic symptoms present in a diabetic case calling for this remedy, often mask and cause to be overlooked the saccharine urine, and the case is treated simply as one of liver disease; the important complication just

*Continued from page 229.

mentioned not being recognized. The moist tongue in particular is a symptom which is quite liable to mislead.

Under bryonia, the dry tongue with the exceedingly bitter taste is very characteristic. Podophyllum produces an equally bitter taste, but, as I have stated, the tongue and mouth are, as a rule, only dry in the morning for a short time after waking, the saliva soon being secreted in excess and the tongue appears broad, flabby and marked on its edges by the teeth.

Thirst is often present in a marked degree in spite of the fact that the mouth is so moist. The appetite is variable, at times being voracious and almost insatiable, again, a very small quantity satisfies and causes a feeling of fullness and satiety. This is a symptom found more or less under all the drugs which cause hepatic congestion with consequent stasis of the portal venous radicles. Thus you will remember a similar condition under leptandria, and it is also present under lycopodium, sepia, bryonia, chionanthus, etc., and is largely due to the simple mechanical pressure exerted upon the gastric filaments of the vagus.

The podophyllum patient is quite liable to have alternate attacks of diarrhœa and constipation, and the appetite varies with the state of the bowels, there being present a headache and poor appetite during the constipation, a lack of headache and the depression of spirits, with a good appetite when the bowels are loose. The urine varies very much as to quantity and appearance, at times being quite profuse and light-colored, compelling the patient to get up a number of times during the night to void it. Again it will be scanty and high-colored with a considerable sediment of the urates. Generally there is more or less tenderness over the hepatic region, and percussion shows the presence of hyperæmic hypertrophy. The stools, in contradistinction to those of leptandria, are generally light-colored, a light-yellowish as a rule, frequently of an offensive odor.

The feet and lower limbs are often more or less bloated in spite of the fact that the kidneys are acting freely, though

usually this condition is most marked when the kidneys are passing through one of their inactive spells. The swelling of the feet and limbs cannot properly be called dropsical, as it is seldom or never that any effusion occurs. It is rather due to venous stasis. The surface of the feet and limbs at such times are often quite cool to the touch.

The symptoms of gastric catarrh are usually present in a case calling for podophyllum and for this reason as well as the others which I have already mentioned the diabetic complication is often unheeded.

Aurum metallicum is a remedy which is generally overlooked in the treatment of diabetes and various hepatic diseases. It has a profound action upon the liver and the nervous system which in itself should suggest it *a priori* for diabetes.

When this remedy is indicated there will be present the following symptoms: There is a frequent desire to urinate, the urine being passed in large quantities. On account of the portal stasis present under this medicine, there is liable to be present an intestinal and vesical catarrh, the latter of which often misleads the physician regarding the nature of the case with which he has to deal. Diabetic urine is of course, as a rule, light colored, and urine highly colored or turbid, does not suggest the presence of sugar. The catarrhal condition referred to, however, often causes the urine to assume a turbid or milky appearance due to the presence in it of vesical mucus or the urate of soda, which is present in excess as a result of the impaired intestinal digestion caused in turn by the intestinal catarrh, an outgrowth of the portal stasis.

I am satisfied that if we as physicians were more generally familiar with the significance of symptoms, and were trained to trace out and understand the relation and the interdependence of one symptom or group of symptoms one to the other, much valuable clinical knowledge would be gained. No doubt cases of diabetes and of Bright's disease, to say nothing of a host of other maladies, have been overlooked or badly treated for the reason that some one or

more symptoms of an unusual nature, have made their appearance, the significance of which has not been understood.

Under aurum, the urine is for the reasons given inclined to be changeable, often being cloudy, turbid, and at times offensive, having an ammoniacal odor; again, it is clear and odorless, and this, too, in a given case of diabetes. The appetite is usually voracious, though at times there is an absence of it, or at least a sudden satiety after eating. There is a bad, slimy, bitter taste in the mouth, the tongue being generally moist, though at times quite dry. Immoderate thirst is present always, irrespective of the amount of saliva secreted.

The liver is often swollen and tender to pressure and percussion reveals hyperæmic hypertrophy. The peritoneal covering is occasionally involved to such an extent as to cause sharp stitching pains, particularly on moving when lying down, as on turning over in bed. The nose is frequently swollen and red and tender, an almost unfailing sign of hepatic derangement.

As might be inferred from what has been said, there is more or less flatus, which usually has an offensive odor. The stools change in character and frequency from time to time, as is almost always the case in diabetes. When the bowels are constipated the stools are hard, dry, large and knotty, of a light gray or ash color. A diarrhœic state supervenes at intervals, at which time the passages assume a darker color and are irritating and burning.

The patient craves sour things and dislikes meats; two symptoms which are often present together, though the dislike for meat is a rare symptom comparatively, in diabetes. The hands and feet are often icy cold, which you will recognize as a characteristic hepatic symptom. Palpitation of the heart from slight physical exertion or from mental worry, is a quite prominent and frequent symptom. The exceeding depression of spirits so characteristic of aurum, is notably present in those cases of diabetes in which this remedy is indicated.

The mental state of diabetics will be observed to vary quite decidedly. While perhaps it would be too sharp a classification to divide them into two groups, it will not be far out of the way to say that they are either exceedingly cheerful and hopeful or unusually depressed and hopeless. This in itself is often a key to the nature of, or rather to the location of the lesion upon which the presence of sugar in the urine depends. The cheerful patient is one in whom the lesion is what may be termed purely nervous in character. The despondent patient is one who has a decided derangement of the liver. That is, in both cases the lesion is strictly speaking nervous, but in one the nerve centres involved are those which only or chiefly affect the hepatic cells that have to do with its glycogenic function; while on the other hand those centres are deranged which affect primarily the cells concerned in the formation of bile, the disintegration of albuminous matters, etc.

I think if a close watch be kept of the diabetic cases coming under your care, you will observe this clinical hint to be true, and will find it of value in assisting you to get at the nature of the difficulty and in the selection of the *similimum*. The indications given will if carefully noted enable you to detect and prescribe for an aurum metallicum case of diabetes.

Mercurius solubilis has cured diabetes. Every one knows that this is a hepatic remedy, but few think of it as a remedy in nervous disorders; nevertheless it is at times exceedingly useful in this class of diseases. As I have stated, a medicine having what we might term a dual action of the kind just referred to, is almost always valuable in the treatment of diabetes. The indications for this remedy are so well known that it does not seem necessary to enumerate them at this time. I speak of it for the reason that it is usually neglected in the treatment of this difficulty, and also because as I have before said, the kind of symptoms that call for remedies of this class often mask those of diabetes, so that the physician fails to test for sugar and

furthermore neglects to prescribe the diet which he otherwise would.

Mercurius solubilis is not often indicated in a case of saccharine diabetes, nevertheless it may be of great use in certain states and stages. It will often assist in relieving many of the gastric symptoms with which the diabetic is troubled, and render less marked the almost inevitable constipation. It is generally most useful in the earlier stages of the disease, and no doubt has prevented more than one case of threatened diabetes from being fully developed.

An early symptom of diabetes, at least occasionally, is a tendency to coldness and clamminess of the thighs, accompanied with increased urination. Although the rule is for the skin to become dry when the disease is fully developed, still I have seen a few cases in which the clammy condition of the thighs referred to persisted, and in such instances mercurius has invariably been of decided benefit, relieving not only the symptom just mentioned, but also improving the general condition. The urine would become less profuse and frequent, especially at night, the bowels more regular and the passages more natural in character, the thirst less and the general debility markedly diminished.

Personally, I have never cured a case of saccharine diabetes with mercurius, but I have seen improvement take place to the extent just mentioned, making it possible for other remedies to complete the cure. Among the symptoms present in a mercurius case, the most characteristic, and one that has never failed me, is the clammy condition of the thighs with dryness of the rest of the skin. Other mercury symptoms will usually be present, but they are so well known that it is needless to mention them. Always, I may say, for the exception is so rare, there is much debility complained of by the patient suffering with diabetes and who requires mercurius. The least exertion exhausts him completely. He seemingly recuperates rapidly, since upon resting a few minutes he thinks that he has regained his strength, and feels rested, but the slightest effort at once completely overcomes him. This at times is not true, *id*

est, the patient feels weak, listless, and indifferent all the time.

Nitric acid and mercurius are always associated in my mind, not that their action is similar, but rather for the reason that the former is so often called upon to undo the bad effects of the latter. In diabetes they both are of benefit, principally in the earlier stages. As has been stated when lecturing upon the symptoms of the disease, small boils appearing in successive crops is often a forerunner of the appearance of sugar in the urine. Often in connection with these boils the urine is dark, scanty and alkaline in reaction. The skin is dry and scurffy, and the patient complains much of debility, especially after the least exertion.

As characteristic as "aversion to fat" is under pulsatilla, so is "longing for fat" under nitric acid. I have told you that in the first stage of diabetes the patient often develops a strange desire for meat, and when *fat* meat is craved this acid will be found to be indicated in a large number of cases. Nux vomica also has the craving for fats, though in a less degree than nitric acid. Strychnine is to be thought of in diabetes, and sometimes assists materially in lessening the debility and improving the general nutrition, and in toning up the vascular system and hence diminishing the flow of the urine.

There are other remedies which belong under this group but a lack of time forbids our entering into detail regarding them. They are less frequently indicated than those I have already mentioned, yet nevertheless are of great value at times. I shall merely mention a few of them: they are nitric acid, conium, kreasote, lycopodium and sepia.

Among the many remedies that are useful in the treatment of this disease I must not fail to mention the *uranium nitrate*. There is no one remedy that I have ever used which has so universally given good results as this one. Seldom or never has it failed to lessen both the quantity of sugar and of the urine. In almost all cases it is well to administer this intercurrently. If it be not sufficient alone to

cure it will at least lessen the drainage upon the patient's system while the *cause* is being removed. I have seldom found it necessary to give it in any other form than the third trituration, five grains three or four times per diem, although occasionally I have prescribed the first decimal to be taken in the same way.

Graphites I cannot pass without a word. It is one of the remedies that are especially useful in combating the prodromal symptoms of the disease. If you find that the following symptoms are present, look out for saccharine urine and for graphites, for the one is liable to appear and the other to be needed :

The patient is morose and despondent ; there is marked prostration ; the urine is profuse and clear, especially is this true at night, the patient being obliged to get up frequently to urinate ; the bowels are constipated, the stools being dark-colored, dry and knotty ; particularly characteristic is an itching eruption in the bends of the elbows and in the popliteal spaces, and if to this is added frequent attacks of vertigo, it makes the indications so much the stronger.

The eruption spoken of at times seems to bear the same prodromal relation to saccharine diabetes that the small boils spoken of do. If in addition to the symptoms given there are hang-nails accompanied by brittleness of the finger-nails, you surely have a graphites case. Other symptoms there are in connection with the appetite, thirst, etc., which at once suggest graphites as the remedy and point to diabetes as the disease.

There are two important points in the treatment of diabetes, or of any other disease for that matter, viz : to recognize the disease in its incipiency and to be familiar with the remedies and their indications, which are the most suitable for the purpose of combating the first stages.

Without stopping to give their special indications, I will merely name a few other remedies which belong in the same category. Hyoscyamus, ignatia, natrum muriaticum,

ferrum phosphoricum, phosphorus, phosphoric acid, creasotum and silicea.

Of these the phosphoric acid is valuable in all stages from first to last. It will usually be found, in taking the history of a case of saccharine diabetes, that when phosphoric acid is indicated, there has been a long period during which the patient has suffered from what could only be termed chronic polyuria.

(*To be continued.*)

FINAL EXAMINATION IN THE INSTITUTES MATERIA MEDICA AND THERAPEUTICS IN THE OLD HAHNEMANN FOR 1889-90.—BY PROFESSORS W. J. HAWKES AND W. S. GEE.

1. What is the correct basis for a Prescription?

2. Name three remedies often indicated in Typhoid Fever, and give one prominent symptom of each.

3. What do you understand by "The Totality of the Symptoms"?

4. Give the distinguishing symptoms of Rhus Tox. and Bryonia in Rheumatism.

5. Why should medicine be discontinued when it is evident that improvement in the patient's condition has begun under its influence?

5. What do you understand by *dynamis?*

7. What three points are necessary to properly "take the case"?

8. Which are the most important symptoms in making the prescription? Make an illustrative case

9. Give the remedy for each of the following symptoms:

a. Dry cough, worse at night on lying down, better sitting up.

b. Cough with pain from mid-sternum to back.

c. Violent tearing pain in the face, especially on the left side.

d. Toothache of pregnancy worse at night, compelling the patient to get up and walk about.

e. After childbirth, backache worse from walking, must lie down, persistent flow of blood.

10. Give the trio aggravation of Nux Vomica.

Give the distinctive throat symptoms of Lachesis and of Lycopodium.

Clinical Society Transactions.

HOWARD N. LYON, M. D., SECRETARY.

MAY MEETING, 1890.

The regular monthly meeting of the Clinical Society was held in parlor 44 of the Grand Pacific Hotel, Saturday evening, May 31st. After the election of Dr. W. A. Smith, of Morgan Park, and Drs. Wm. M. Johnson and J. A. Printy, of Chicago, to membership, the Society listened to the

INAUGURAL ADDRESS OF PRESIDENT DR. R. M. BARROWS.

LADIES AND GENTLEMEN—*Members of the Clinical Society of the Hahnemann Hospital:*

It is with a good deal of reluctance that I, one of your more recent members, appear before you in the capacity of your president. In the first place, I doubt my ability to follow in the footsteps of one who has so ably filled it during the past year; and in the second, when I look over the membership of this Society and find so many lecturers to whom we love to listen, specialists of note and general practitioners of large experience, I feel that you could have selected more wisely. But on the other hand, I feel proud to be numbered among such a body of workers, whose clinical reports and discussions have added so much to a knowledge of disease and its successful treatment. By the publication of the Society's transactions, in that ably conducted magazine, "THE CLINIQUE," you wield a large influence in the medical world, and it should be an incentive for the best work possible.

In assuming the Presidency of this Society, for which honor I sincerely thank you, I trust you will overlook what may be laid to my inexperience or incapacity. I will promise you a good degree of enthusiasm, for I love the practice of medicine and it continually renews its youth to me. I be-

lieve it is "Lecky" who says "No virtue is safe that is not enthusiastic," so I think no medical man is in the right place who does not enthuse over his calling and whose work to him is not a constant joy and inspiration.

I am glad to have the name of Hahnemann in the title of our society. It continually reminds us of the great founder of our system of medicine. If we were inclined to be hero-worshipers, where could we find one more deserving than Samuel Hahnemann? Born in poverty he raised himself by his indomitable will, over all opposing obstacles, to be one of the foremost physicians and men of letters of Europe. Jean Paul pronounced him "a prodigy of philosophy and learning." He coupled with his genius industry and erudition, a life of unblemished morality, his writings being permeated with a strong natural piety. It was to this pure, upright, German physician, while pursuing his investigations and studies at Leipsic, that belongs the glory of discovering a law of cure which was to revolutionize the practice of medicine and cause his name to go down to posterity as one of the greatest benefactors of the human race. We, his disciples, gratefully and reverently bring our wreathes of immortelle to lay at the feet of this great emancipator, who, with one well-directed blow, pierced to the vitals that thing built up on empiricism, surrounded by mysticism, sustained by prejudice and bigotry and known as the dominant school of medicine. What did Hahnemann and his followers do? He discovered a law of cure which is as far-reaching as eternity itself. It is not a mere theory, but a law founded on facts, as certain as the law of gravity. What does this law do? It rescues the application of drugs in the treatment of disease from an empiric guess to a certain cure.

What has it done? It has raised up an ever-increasing host of followers, numbered by thousands, occupying all lands and by its very practice has modified and bettered the allopathic or dominant school. This last fact is a bitter pill for our opponents to swallow, but it is incontrovertible.

Their methods and practices of sixty years ago would not be tolerated now in any civilized community.

What was their treatment for fever, for instance? Starvation, blood-letting and calomel. If the patient did not succumb quickly enough, their cry was "To-morrow we plebotomize again and double the dose of calomel." This *secundem artem* of the old school swept thousands to an untimely grave, like "death on a pale horse," and called it scientific prescribing. Venesection was barely alluded to when I took my first course of lectures at an old-school college in 1874, and calomel took decidedly a back seat. Again, look at the death rate in hospitals under allopathic practice, reaching as high as 20½ per cent. in pneumonia, the new school reducing it to 6 per cent. Certainly "Time doth make ancient good uncouth." In self-defense they must modify their treatment. Those of us who read the old-school journals, also such writers as Ringer and Bartholow, will find many suggestions as to remedy and dose implying a more or less intimate knowledge of New School medicines and methods. These are straws, but they show that the mighty law of Hahnemann as practiced by his followers, is having a vast and salutary influence in all schools of medicine.

Homœopathy did not spring up, Minerva-like, full-fledged and armed to achieve victory at once, but like all other great discoveries, it was a thing of growth, and had long and bitter battles to fight with error and bigotry. But it was born a young giant; its growth has been steady and certain, for "truth is mighty and shall prevail."

It was fitting that the first rays of this great truth should shine forth in that land which gave the world a Guttenberg and a Luther; one to give us printing to disseminate the truth and the other its great reformer. "The truth against the world," Luther's motto, might well be adopted by the followers of Hahnemann. The prophecies that we read from time to time of the speedy death of Homœopathy and its obliteration as a discarded fad, only cause us to smile.

I wonder if the "Autocrat of the Breakfast Table" still thinks it is dead? Does he ever look over to the Boston University and does he find any falling off in the attendance or graduates of that homœopathic school, planted so near the one in which he even now holds an emeritus professorship?

Dr. Hoyne's recent report at our State Society tells us of the steady growth of our school of medicine, and from a recent speech by one of our leading teachers, I cull the following statistics of the status of our school in this country alone. The number of practicing physicians is 12,000. Our medical colleges number 14, with 1,200 matriculates and graduating annually over 400, their allumni numbering 8,000. We have sixty hospitals with nearly 5,000 beds, twenty-five journals devoted to our interest, 33 distinctive homœopathic pharmacies and 150 medical societies. We all, who believe in the law of "similars" feel proud of this showing and believe that it is prophetic of larger things for the future. But while homœopathy in its feeblest exhibition and its crudest forms of practice is far superior, and produces far better results than the most advanced practice of the so-called regular school, yet who of us has attained unto his or her ideal as a therapeutist?

I hope we all place our failures where they truly belong —upon our lack of knowledge in selecting the right remedy, and not upon any fault with the law of cure. My own early failures as a prescriber arose mainly from not keeping close to the Hahnemannian rules. The habit of my early practice to prescribe from the pathological indications and using remedies usually helping those conditions, was hard for me to shake off, and even now, unless I watch myself carefully, I slip into it almost unconsciously. But the beautiful results of later practice from selecting the properly indicated remedy, have convinced me that, though a slower and often a difficult road, it is eminently a safer one to follow, and when you do effect a cure it is a lasting one. Hahnemann says in his master-piece "The Organon:" "The first and sole duty of the physician is to restore health to

the sick; this is the true art of healing." To cure our cases quickly, safely and surely, is an ideal at which we should aim as physicians of the only school which has a definite and if rightly applied a certain law of cure, where cure is possible. Even in incurable cases our remedies greatly relieve. Therefore as a medical study our materia medica stands "*facile princeps*." To make it more effective as practitioners and as a society should be our aim and serious study. I would not have you forget your pathology, superficiality in medicine is to be deprecated. But piling "Peleon on Ossa" of pathology will not find you the curative remedy. I have tried it, as also have the whole body of the old school from time immemorial, only to fail. But a good diagnostician has a power over his patients which of itself will enable him to keep their confidence and thus hold them for an indefinite period. But pathology is but the steps leading up to the edifice you would enter—the therapeutic key is necessary to unlock the door. This therapeutic key lies within the reach of the humblest of our school. Our amplified and condensed materia medicas, our repertories, our guiding symptoms, key-notes, concordances, etc., offer us helps in this most important study, which we should pursue untiringly. It is no royal road but eminently a satisfactory one.

In closing, may I offer in the spirit of helpfulness and as a learner, a few suggestions bearing upon this line of thought:

First. As a fountain cannot rise higher than its source, can we do better than follow the Hahnemannian rule of selecting the simillimum from the totality of the symptoms, as the basis of our prescriptions?

Second. The corollaries under this great rule should be borne in mind as giving the surest results, viz.: the single remedy, the smallest quantity of it necessary and its infrequent repetition.

Third. Keep a bedside or office record of all your important cases, noting down history and conditions, pulse, temperature, also drug effect of remedies, potencies used, etc.

Fourth. To the leaders of bureaus, I would suggest that the subject of the leading paper be one common to the majority of those cases met in practice, and let the full title be announced two weeks before the night of meeting, and if possible the titles of other papers to be presented in the same bureau. It was notable in our State meeting just passed that the most helpful discussions we had were on subjects common to our every-day experience.

Fifth. Both in the papers presented and in the discussions following, may we not have a fuller and freer statement of the "modus operandi" of our cures. I know it is a frequent question after a paper is given, "what remedies did you use?" I would have this cover potencies used, external applications and the methods of using instruments and the like.

Sixth. An added bureau of drug proving might not be out of place, or at least one on Materia Medica proper, to lead us to investigate some of the more promising of the newer remedies.

Seventh. I would suggest a live committee appointed to devise some means of securing a larger attendance of the active members of this society. With an enrollment of 105 practicing physicians, we should have at least fifty of them present at each regular meeting.

I thank you all for your thoughtful attention. May the spirit and zeal manifested in our admirable State meeting so recently convened, stimulate us to fresh endeavor. I trust that echos of the National meeting so soon to convene may reach us in some tangible form to still further inspire us to renewed activity in this our chosen field of labor.

Let us be ambitious to do good work for homœopathy in the coming year, knowing that as we spread the knowledge of its truths we will advance scientific medicine, causing empiricism to fall before its onward march, and thus bring on ourselves the gratitude of long suffering humanity.

"Therefore press on and keep thy mind from sloth, thy heart from soil. Press on and thou shalt surely reap a heavenly harvest for thy toil."

The reading of the President's address was followed by the presentation of the

REPORT OF THE BUREAU OF SKIN DISEASES.

T. S. HOYNE, A. M., M. D., CHAIRMAN.

SOME OBSTINATE CASES.—BY DR. T. S. HOYNE.—PSORIASIS.—The first case I shall call your attention to this evening is No. 13,572, which was first brought to our notice July 16th, 1889. From the history given and the general

appearance of the boy (6 years old) it was evident that he was afflicted with psoriasis and eczema, a not unusual complication. His mother stated that the eruption began sometime in April, '89. It began as small vesicles, and soon

formed a thick scab. He complained of very little itching at first and of none at all now. When a scale is removed there is either a bloody discharge, or a dry, reddened surface. The eruption was located on the arms, legs and back. His sleep was very poor—he talked a great deal. When bathed he complained that the water burned and pained him. He also complained of difficult breathing in the evening. Arsen 30 was given and was continued up to August 13, with improvement, at which time the pain in his legs was so bad he could not sleep at night. As it was not known whether or no he had injured his limbs in any way, arnica 30 was ordered to be followed in two days by rhus 30 if no better.

April 27. The mother reported that he was much better after taking the rhus. This was continued September 3 and 10, and we saw no more of him until May 6 of this year. The mother said she had not returned before because he got well. Here is a photograph of him taken by Dr. Lyon upon his return to the clinic. (See opposite page.)

You see that the eruption is located about the face and neck, and upon the lower extremities. The eruption appeared for the second time the last of March, but in an entirely different form. In fact we now have upon the legs what Dr. McCall Anderson terms psoriasis rupioides—a very rare form of disease. I quote from his description: "The accumulation of epidermis takes place to an unusual extent, so that on many of the patches it assumes the shape of large conical crusts, marked by concentric rings. In fact they resemble in shape limpet shells and from their likeness to crusts of rupia, I have called this variety psoriasis rupioides. Except in the shape of the crusts, however, there is no connection whatever with rupia; and on removing a crust there is no ulceration beneath, but a slightly elevated, dusky-red rounded surface is exposed to view which sometimes bleeds a little." In the photograph this condition is not very well shown because it was difficult to keep the boy quiet long enough. This variety of psoriasis is always associated with struma, and the main remedy of the old school is cod liver oil with arsenic. It is claimed that these crusts examined carefully under the microscope will be found to contain pus. In fact, Fox says that the moisture underneath the scale will be found mixed with pus.

Psoriasis is prone to select the posterior surfaces of the body, and in this lad it is the back and the posterior surface

of the leg that is principally involved. Rhus 30 was given at his first visit, but with little benefit.

May 13. The mother said the eruption was worse; that there was more of it. No itching anywhere. Upon removing a scab upon the leg accidentally or purposely there is a

slight bloody discharge. Bowels are constipated. The boy is very fond of sour things. He drinks a great deal of water, but at long intervals. He has much frontal headache in the evening, quickly aggravated by exercise. Bry. 30 was ordered and to report the following week.

May 27. He skipped a week because he was some better—the face especially. Legs and back are no better. The constipation has been relieved by the medicine. Some headache, especially in the open air. Bry. 200 was ordered.

Psoriasis is usually a very obstinate and almost incurable disease, and the quick action of the remedies in the first instance was remarkable. The return of the disease was not to be unexpected, but its return in a rare form of the disease was certainly not looked for. I shall take pleasure in calling this case to your attention at some future meeting.

At the clinic last Tuesday a girl over thirteen years of age was presented by Dr. Isabella Green. Upon examination it was ascertained that she was suffering from ichthyosis or fish-skin. It was learned that ever since birth she had been afflicted with an exceedingly dry skin, but that it was only during the past three or four years that the characteristic scales had made their appearance. The child was pale, anæmic, with dark circles under the eyes. Her appetite was poor, but had improved somewhat since bringing her to the city.

This disease is often hereditary, but we could not ascertain that either of her parents had ever had it. It was certainly congenital, taking the statement of the attendant who said that she had always been afflicted with dry skin or xeroderma. Her sister, although not so badly affected also has the same sort of harsh, wrinkled and dry skin. The natural elastic, smooth and soft feel of the integument was entirely lacking in both girls.

In the child brought to us the parts affected were the knees, ankles and elbows, although the skin of the entire body except the face was dry, harsh and dirty-looking. Especially about the knees and elbows the scales were heaped up and of a blackish color. Children afflicted with this disease are always thin, stunted in growth, and complain greatly of the cold, no matter how warmly clad; every slight wind seems to blow through them. The causation of the disease aside from heredity is unknown. In the CLINIQUE, Vol. iii., p. 169, will be found a report which I

made to this society in May, 1882. At that time there was a case presented to the class several times by Dr. Sara Andrews of this city. Graphites was the remedy used and a persistence in its use for a long time with the use of oil baths, finally cured the child.

In the case presented to the class on Tuesday from the symptoms present natr-mur. and the frequent oil bath was recommended. The case is a very interesting one on account of the rarity of the disease and still more so because it is scarcely ever cured. There is some probability of a favorable result in the child, but none at all in the adult.

At the time of my former report upon this disease but one case of ichthyosis had been reported cured. Arsenic and sulphur were the remedies used.

Elephantiasis. October 15, 1889, Mrs. B., a woman about 40 years of age, came to the clinic to be treated for her leg. She was a large, fleshy woman weighing about 220 pounds, which had been her weight for about six years. Her appetite was very good; her bowels constipated. She had taken many pills and used salts for her constipation. Her urine she thought was normal in quantity and color. She sleeps well at night, and her dreams are not unpleasant in character. Has some shortness of breath on ascending stairs. Complains of a soreness in the left leg at all times, but it is much worse at night while resting. Upon inspection the leg was found to be greatly enlarged—especially about the ankle—measuring 14½ inches in circumference. It was dotted here and there with a papular eruption, and this same eruption she informed us was also to be found under the right arm. Pressure over the swollen part was followed by pitting, and the tissue beneath felt indurated. The skin was tense, glossy and slightly discolored being of a pinkish cast.

Upon inquiry it was learned that some weeks after her last confinement (now several years) this left leg had commenced swelling, and was gradually increasing in size. Although authorities, in speaking of elephantiasis arabum, do not lay much stress upon the pain in the limb affected, still they do insist that the sensibility of the part is not greatly lessened, and this woman complained greatly of it at times.

I judged that the pain had been much worse in the past than at present. The skin was broken in one place above the ankle, from which there was a slight watery discharge." She was given rhus-tox. 30, and October 22 reported some better; but what she terms the sore is very sensitive to the touch. Asaf. 30 was then given, and the next report was—Feels better generally; pains come and go; asaf. 30 continued. This last was the third time she had been before the class, and the third week of her treatment. She disappeared from view for over five months, when she returned again, April 1. She thought she could do better under old-school treatment, and had been taking ever since, more or less regularly, the following:

℞ Acid carbolic..... 1
Glycerine.....40
Liquor arsen et hydrarg jod .25
Fl. ext. cascara sag.....20
Camph tinct opii.....90
Elixir simplex.....75

M. et sig.: Take 1 teaspoonful before each meal and at bed-time in water.

Locally she had used the following:

℞ Chlorate sodium..... 10
Hydrate chloral..... 5
Glycerine..... 40
Aqua rosæ.....230

M. et sig.: Apply as a wash three times a day.

The limb had certainly grown smaller in circumference, but its appearance was changed for the worse. It was now greatly indurated and much darker in color, and measured 12½ inches in circumference. From that day to this the patient has received nothing except asaf. 30, with a gradual weekly improvement in all her symptoms. The swelling is slowly disappearing, the open places upon the skin have healed up, there is no longer any local soreness; in fact, the patient now feels confident that she will entirely recover.

This form of elephantiasis is not contagious, it is usually confined to one limb, but may affect the scrotum, belly, breast, pudendum and other parts. The average size about the ankle in 340 cases reported by Mr. Waring was a little over eleven and one-half inches. The causation of the

disease is not clear. Fox, in speaking of this affection, says it is a "hypertrophy of the derma and subcutaneous tissue, with the effusion of a blastema, of homogeneous aspect, mixed up with a large number of molecules, granules, free nuclei and nucleated cells." The primary seat of the disease is in the lymphatics. The duration of the disease varies between 26 and 55 years, and is pronounced incurable.

Psoriasis.—A very rapid cure was made in a case (13,634) of psoriasis recently. A little boy seven years of age had been afflicted with the disease five years. the eruption being located mainly upon the chest. My clerk failed to record the symptoms which lead to the selection of the remedy, which was sulphur 30. The only symptom he recorded was—Likes and eats much salt pork. Treatment was commenced February 11, 1890, and discontinued March 25; six weeks.

In looking over the records of the Clinic I find many cases of tinea tonsurans cured in a very short time, principally with sep., tell., hepar., natr.-mur, the duration being from three to eight weeks, but here is the record of an obstinate case :

Tinea tonsurans. *Case No. 13,609.* A little colored boy aged seven years came to the dispensary November 26, '89. His general health was good and no symptoms could be obtained in the case with the exception of the appearance of the hairy scalp. Three spots varying in size from that of a quarter to a silver dollar were covered with short, broken off hairs, so characteristic of tinea tonsurans. His mother was ordered to daily wash the diseased places with vinegar, and sep. 30 was given internally. December 3, 10 and 17 the report shows that the disease had been arrested and that there was a new growth of hair springing up. Sep. 30 had not been changed. December 24, however, the disease commenced spreading, so the mother was ordered to put a copper cent in the vinegar and to wash the diseased and surrounding parts carefully: sep. 30 cont.

The next week, December 31, there was an improvement again and the following January 14 a relapse. On this date the boy stated that he disliked fat and salty foods,

but loved all juicy fruits. He also stated that he liked to be out of doors all the time even if it was cold. Tell. 30 was ordered, and washing of the parts with carbolic soap.

The improvement was very slight from week to week but still there was a decided change for the better February 4.

February 25—He was worse again, when the remedy was changed to carbo-animalis. From that time to the present he has reported every two weeks a slight improvement with no relapse, and it is to be hoped that the end is about reached.

The next case I wish to present to you was first seen Sept. 13, 1887, at which time the clerk made the following entry:

Case No. 13,464.—Mrs. W., aged 48. Has had an eruption for about 12 years. It began on the neck, then extended to the left arm, and then into the hair of the head. Has never affected the right side of the body. At the time it began she had consumption of the bowels and took a great deal of allopathic medicine. This she thought was the occasion of the eruption which has appeared all over the back, the arm and the neck. Has never appeared upon the chest or lower limbs. At present the worst place is upon the arm just below the elbow. As the eruption advances it leaves behind a healed but cicatrized skin. This arm has been very bad for a year. The discharge is watery, bloody, and stains and stiffens the linen bandage. It itches as it heals. The eruption always starts in the shape of small vesicles. She has a good deal of headache on the right side and the right nostril is plugged up at times, followed soon after by a yellowish discharge streaked with blood. Gets very dizzy after wearing glasses. The hands and feet are cold and damp. Diarrhœa, with frequent passages of a thin, grayish color. She has a craving appetite—has been hungry all the time for the last five or six weeks. The menses are too frequent, coming on every three weeks and are too profuse, lasting nearly a week. The patient is far-sighted and has tried glasses.

She complains of a burning pain in the eruption, much worse at night. She has considerable thirst, drinking a great deal of cold water. Faint feeling in the stomach between meals; the heart seems to stop beating, relieved somewhat by eating. Has hot flushes, and burning soles of the feet. Has not slept well for four weeks. Sulph. 30.

September 20. General symptoms better, but not the eruption.. Sulphur 30, continued.

September 27. Drinks a great deal of water. Diarrhœa again. Arsenic. 30.

October 4. Urticaria. Diarrhœa better. No thirst. Very nervous; perspires freely; when cold or warm air strikes her the itching is worse, also from washing. Stools of an ashy color. Severe pain in the chest and stomach as of a weight. And so for a year the eruption remained about the same, with occasional attacks of diarrhœa or dysentery, during which time she had sulph. 200, nit. acid 3, rhus.-tox. 30, puls. 30, and 1 m. Thuja. 30 and 3. spig. 30, all of which relieved the symptoms for which they were given.

November 13, 1888. The symptoms were again about as I have detailed at the beginning of this case, and calc.-carb. 30 was given. This potency and afterwards calc.-carb. 200 was kept up until December 25, at which time the report reads: "Stools are watery and of a yellowish color, passed with considerable pain. Great rumbling in the bowels, six or seven stools in a day. Great thirst for cold water. Skin cool and moist. Can stand but little heat as it makes her worse. Bry. 30 relieved all symptoms but the frequency of the stools and the skin symptoms. The administration of calc.-carb. 30, was followed by a decided change for the worse. More diarrhœa, nose-bleed, cough and boils.

January 15, 1889. Phos. 30, with a decided improvement. Then phos. 1, m., and then sac. lac.

Feb. 5. Reports that she had intermittent fever and took quinine, 10 grains, which has not stopped it, and is worse every way. Nux. 30 for a few weeks.

February 26. Very free discharge from the eruption. Urine examined and no sugar or other abnormal constituents found. No more boils. Sleep and dream symptoms indicated puls. The 30th was given.

March 12. Eruption spreading some but not discharging; burning pain. Bowels all right. Has a craving for food but does not know for what. Phos. 1 m. And now for a time the eruption became very much worse. Sulph. 1 m., asaf. 30, hep. 30 and lastly sil. 30, which brings us to May 14. Arm almost healed up, but some eruption on the other arm for the first time.

Case doing nicely June 18, 1889, when I go away for summer vacation, during which time remedy is changed to nit.-ac. 30, why I do not know, for the record is dumb upon the subject. At any rate, now again commences epistaxis, and bleeding from the eruption, and by the last of July has

carbuncles upon the back. Sil. 30 afforded some relief, but back again came the diarrhœa, for which sulph. 200, and later 1 m. had to be given.

September 24, report reads: - Feels better than she has for fifteen years. Bowels all right. Wakes during the night scratching the arm, which bleeds some. Little sores in the nose which bleed occasionally. Sil. 30. This remedy and sulph. 30, according to the state of the bowels, was kept up until October 29, when phos. 30 and later, phos. 1 m. was given. Then four weeks of sac. lac.

December 3. Phos. 1 m., again.

December 10. Eruption began to spread again. The patient also had a desire to sleep too much. Sil. 30, and then 200th, with improvement.

January 28, 1890. Severe watery diarrhœa. Phos. 1 m.

February 18. Rheumatic pains in right arm and other symptoms of prevailing la grippe. Bry. 30. But the arm grows worse, so the following week we return to sil. 30, and later to phos. 1 m—two weeks; phos. 200, one week. Phos. 1 m, one week, sac. lac. two weeks, which brings us to May 13, at which time the report was, all symptoms improving.

In the two and a half years this lady has been under treatment, what she has not passed through is not worth mentioning. Change of life, boils, carbuncles, intermittent fever, la grippe, dysentery, diarrhœa and an obstinate skin disease all engrafted upon a hemorrhagic and strumous diathesis.

Eczema pustulosa in persons of a strumous diathesis acts very much like the case we have just described. The tendency to pus formation, to unhealthy ulceration, and to slow healing with cicatrization marked this case throughout. Such cases are frequently met with in the young, but are by no means uncommon in the adult who gives a history of previous attacks of diarrhœa or impoverished nutrition.

The grave appearances of the eruption in this case reminded one somewhat of lupus erythematosus, and the slight itching experienced by the patient also suggested it, but the characteristic discharge and the scales rendered the diagnosis comparatively easy. Lupus is a disease of youth and our patient was over 36 years of age when this disease began.

Eczema.—Reported by Dr. Frances B. Wilkins.—*Case.*—The patient, a male æt. 60, has suffered at various times since birth from an eczematous eruption. The trouble is probably congenital, as there is a history of a soreness of the joints and behind the ears shortly after birth. The patient did not walk until he was two years old. At the age of twelve the trouble had increased to such an extent that he was taken to one of the sulphur springs, from which he returned much improved. About seven years ago there was a return of the trouble, which was eventually cured by the use of arsenicum iodide and sulphur. Six months ago it again returned, appearing first as an unnatural dryness of the skin. Then starting on the limbs which are highly œdematous the present scaly eruption appeared. Many of the scales are as large as a silver dollar. They separate readily and leave a moist base. At times there is severe pain of a neuralgic character. This is worse at night, often compelling him to leave his bed and move about, which affords some relief. The hair is not affected but continues to grow, many of the hairs passing through the scales.

Dr. Hoyne saw the case, at my request, during the attack seven years ago, and at that time prescribed a dry dressing. The œdema is kept down by bandaging. Lycopodium spores, or some similar dressing, is often of value when there is much discharge; in other cases some cerate will be better indicated.

Dr. Hoyne: As a general rule corn starch makes a good dressing for such cases, but in the case referred to it seemed to aggravate the eruption and a cerate was applied with benefit.

Discussion.—Dr. G. F. Shears: Of all the mean, disagreeable, unpleasant diseases to treat, none are worse than those pertaining to the skin. There is but little credit to the physician, while there is a great deal of trouble. A recent surgical case in my care resulting from eczema may be of interest. When I saw the patient the disease had greatly lessened, although the face was somewhat reddened and there was still a slight eruption. The feature for which I was consulted was a contraction of the mouth resulting from this inflammation which had so far reduced its size as to prevent the extraction of some decayed teeth which

greatly annoyed her. As the eruption was then quiescent I operated, enlarging the mouth an inch each way. On one side the success was excellent, but on the other only moderately so, as the wound partially grew together again. The patient is, however, perfectly satisfied, as the operation has accomplished what she desired, and she refuses to let me operate again. She presents a rather ludicrous appearance at present—one side of the face appearing jocular and the other sober.

Dr. T. S. Hoyne: Could this have been a case of lupus?

Dr. Shears: I think not, as there has been no history of an open sore.

Dr. Hoyne: It was then probably a case of eczema rubrum, which is accompanied by much inflammation.

Dr. F. B. Wilkins: What effect does bathing have on eczema?

Dr. Hoyne: In acute cases it has a detrimental effect, and for this reason eczema on the hands is more difficult to treat than when occurring on parts of the body less frequently bathed. In chronic cases it often does good.

Dr. W. H. Burt: I had a child in my care who presented a contraction of the mouth similar to the case described by Dr. Shears. In this instance congenital syphilis was at the bottom, and the eruption was of a decided syphilitic nature.

Dr. G. F. Shears: There was no such history in the case that I reported.

Dr. W. H. Burt: When I attended the Cleveland Hospital there was a patient in one of the wards suffering from a syphilitic skin disease, affecting one of the lower extremities. Over a pint of scales would drop off every day.

Dr. T. S. Hoyne: A syphilitic eruption is never confined to one limb.

Dr. W. H. Burt: Not if it is congenital?

Dr. T. S. Hoyne: That makes no difference.

DR. G. F. SHEARS: Asked if Dr. Hoyne would include enlarged glands and syphilitic nodes in this rule?

DR. HOYNE: No. As their location frequently depends upon some injury to the part.

DR. R. M. BARROWS: How long after the primary eruption before the other side is affected?

DR. HOYNE: Immediately.

DR. SHEARS: The usual teaching is that syphilitic eruptions do not itch, yet I recently had a case in my care in which the itching was so severe that the patient was only able to obtain relief by the use of a solution of carbolic acid almost strong enough to cauterize.

DR. HOYNE: Such cases are very rare.

DR. KENDALL: I was recently consulted by a lady, æt. 55, who was troubled with eczema. The symptoms calling for sulphur it was prescribed in the 30th, to be taken for two weeks. On her return from the east shortly after she brought me a nice specimen of tape worm she had passed and reported an entire relief from the eczema.

DR. G. F. SHEARS: Tape worms occasionally come away without any treatment.

DR. R. M. BARROWS: This seems a pretty straight cure.

DR. SHEARS: It seems so.

DR. HOYNE: I have found nothing superior to pumpkin seed for the removal of tape worms if it is properly used. My method is to have the patient fast for twenty-four hours, taking nothing except pumpkin seed tea and eating the seeds. A dose of sweet oil can be used afterwards if necessary.

In a recent case the patient thought she was suffering from heart disease. She had fainted while on the street shortly before I saw her. Pulse was regular and no signs of any heart trouble. There was a history of ravenous hunger and other prominent symptoms of tape worm. The treatment for that brought away a fine specimen. The fact that these patients feel better after the use of alcoholic drinks is a diagnostic point, as well as the severe colic and

frequent fainting spells. Another peculiar fact is that both husband and wife are usually similarly affected. This is evidently due to their partaking of the same food.

VOLUNTEER PAPERS: 1. THE REMOVAL OF SUPERFLUOUS HAIR BY ELECTROLYSIS. HOWARD N. LYON, M. D., CHICAGO. —Among the many blemishes to which the skin is subject there is, perhaps, none more annoying to the unfortunate possessor than a growth of hair on an undesired locality. A moustache that would make a young man the envy of his companions, if occurring on the face of a woman, would be the source of continued mortification. Such cases are not uncommon, and various measures have been suggested for their relief. Among these are shaving, epilation, depilation, bleaching and electrolysis.

Shaving and epilation have proven unsatisfactory, as they tend eventually to stimulate the growth of the hair.

Bleaching is apt to be followed by unpleasant results from absorption of the agent used. This method has found but little favor since it merely makes the hair less conspicuous, but does not remove the deformity.

If the action of the various depilatories extended to the bottom of the hair follicles and destroyed the hair-producing portion, depilation would be all that could be desired. Unfortunately this is not the case, their action ceasing as soon as the hair has been destroyed to a point slightly below the level of the skin; the result being practically the same as when the hair is removed by the razor.

The continued use of depilatories causes the skin to become dry and rough, and from absorption of the preparations other unpleasant consequences frequently result.

In electricity we have an agent whose action is entirely within our control and when rightly applied is never followed by evil results. Of all the methods which have, so far, been tried, this is the only one which will not only remove the hair without injury to the skin, but will so effectually destroy the nutrient papillæ that it is impossible for the hair to return.

Before we consider the method of application, a short review of the minute anatomy of the hair follicle may be of interest. Briefly, this consists of a long narrow sack formed by an infolding of the inner layers of the epidermis. At its lower end it is slightly bulbous, and at the bottom is a small, highly vascular papilla which affords nourishment to the hair.

The hair itself is simply a modification of the general epidermal covering of the body. It is usually in the form of a round tube composed of flattened cells. The central cavity is filled with cubical, pigmented cells. At its lower end it is bulbous. This bulb or root is penetrated by the papilla of the follicle. As the entire nourishment of the hair is derived from this papilla, the growth of the hair naturally results from cell proliferation at this point.

Knowing this, it is evident that to prevent farther growth of the hair it is only necessary to destroy this papilla, thus cutting off the source of nutrition. In order to do this we have only to introduce a fine needle-shaped electrode into the papilla and connect it to a galvanic battery. On completing the circuit a decomposition of the tissues about the electrode occurs, and the entire strength of the current at the needle electrode being confined to an extremely small space, this decomposition is sufficient to completely disorganize the tissue. This action is due to the fact that when an electric current is passed through a slightly saline semi-solid or fluid medium a decomposition of the material results. The electro-positive elements collecting at the negative pole and the electro-negative at the positive.

In addition to the direct effect on the tissues from electrolysis, there is a secondary cautery effect from the sodium and potassium salts formed by the breaking up of the tissues. As the metals are not attacked by the hydrogen and alkalies which collect at the negative pole, while the oxygen attacks the material of the positive, the electrolytic needle should be attached to the negative pole of the battery. If this is always done there will be no reports of pigmentation as the result of an attempt at removing hairs by this method.

Any acid battery of from 12 to 18 cells will be sufficient. Explicit directions cannot be given in regard to the strength of the current required, for it depends on the strength of the hair and the susceptibility of the patient. My rule is to begin with a battery power of six cells and increase by adding more cells until the proper current is obtained.

Having everything in readiness the patient is seated in a reclining chair, so placed that the portion to be operated on is in a strong light. The operator then seizes a hair with a pair of epilating forceps and makes gentle traction in the direction opposite to that in which the hair naturally bends. This opens the mouth of the follicle and renders

the introduction of the needle more easy. As soon as the needle has penetrated to the bottom of the follicle and into the papilla the circuit is completed by the patient pressing the positive electrode against the palm of her hand. In a few seconds a slight foam will appear at the mouth of the follicle and the hair will readily come away on slight traction being made.

Instead of the patient holding the positive electrode, a neck electrode may be used and a circuit-closer can be inserted between the needle aud its conducting cord.

The positive electrode should be broad and covered with sponge, over which should be secured a muslin cover, which may be changed for each patient. Before using, the sponge should be thoroughly moistened in salt water.

The needles used for this purpose are similar to the broaches used by dentists in cleaning the root-canals of the teeth. They should, however, be much finer. Platinum needles are also made for this purpose, but do not seem as easy to introduce as the steel. They, however, have one great advantage in not being acted upon by the oxygen liberated; no harm is done should the needle be inadvertently attached to the positive pole.

From twenty-five to fifty hairs are usually removed at each sitting; the precaution being taken to avoid removing hairs near together. If but a small area is operated on and a number of hairs removed, it is possible to excite sufficient inflammation to cause scarring. This need never happen if care be taken.

Occasionally, with a sensitive skin, a slight papular eruption will appear wherever the needle has been entered. This soon subsides without causing any disfigurement.

If the operator finds a lens necessary in order to clearly see the openings of the follicles, it should either be held by an assistant or else a jeweler's eye-glass should be worn, as the left hand is required to steady the skin while the needle is being inserted. Those eye-glasses provided with a spring head-band can be worn without previous practice and without fatigue to the unpracticed eye.

In those rare cases in which considerable inflammation is excited I have found that a needle insulated by a coating of shellac varnish or india rubber to within an eighth of an inch of the point, is productive of less irritation. This is due to the fact that the action is entirely confined to the papilla, and not distributed throughout the entire length of the follicle.

If the needle penetrates the papilla there will be no return of the hair. This unfortunately does not always take place, the needle frequently being introduced only to the hair bulb, the hair is cut off there. When this occurs such hairs will soon return, necessitating a second operation.

Other hairs may be too small to demand removal at the primary operation, and later grow sufficiently to be conspicuous. These will have to be removed from time to time.

In concluding, I will say that I have used this method in a number of instances, in every case the results being entirely satisfactory.

2. CLINICAL OBSERVATIONS BASED ON OVER FOUR HUNDRED ABDOMINAL SECTIONS. BY DR. R. LUDLAM.—If "keeping a diary will add a new terror to death" perhaps one should desist from relating his professional experience in the manner that is proposed in this paper. And yet, considering the times upon which we are fallen, and how very rapidly we are making history, special surgical history, in these latter days, it may be a duty and a privilege to make note of what we have seen and learned through a somewhat lengthy and unusual career.

This contribution, which is offered to the Clinical Society in good faith, is based upon more than four hundred (400) abdominal sections that have been made by the author during the years 1872 1890. Beginning at a period when peritoneal surgery was imperfectly developed, many of these operations were performed under the most trying and adverse conditions, and with a technique that was neither aseptic nor satisfactory. At first there was such a well-founded prejudice against making an ovariotomy, or incising the peritoneum for any purpose in a general hospital (and special hospitals were few and far between), that we were forced to take to the field and to operate in the homes of our patients. In that way, and for that reason, I have opened the abdominal cavity of my patients at their residence in fourteen of the different States of the Union. Of late years, since the safeguards are what they should be, and the risks are decreasing in a wonderful ratio, I have

also operated in eight different hospitals, and most of the members of this Society have been present at one or more of my clinics in which an abdominal section has been made. These facts are stated because the validity of one's professional experience depends upon his opportunities, as well as upon his capacity for observation and improvement, and his honesty in making up the record.

1. *Of the house-to-house as compared with the hospital methods in abdominal surgery.*—There are advantages and disadvantages in both of these methods. I am satisfied that there are women whose chances of recovery from an ovariotomy will, other things equal or nearly so, be the better for having it done at home. This class includes those who are extremely sensitive; who have a mortal dread of going to a hospital, lest they should not escape with their life, and of being placed or left among strangers; who, with or without reason, worship their own doctors, and who cannot place implicit confidence in anybody else; who, in old and neglected cases, are too weak to travel a long distance, even in the sleeping-coach or the parlor-car, and whose family bonds and sympathies are so strong that a forced separation would materially lessen the chances of their getting well.

While many and perhaps most highly neurotic women should be removed to new and strange quarters before an abdominal operation is made, there are exceptional cases of this kind in which a laparotomy for any purpose had better be done at home. For, while, as a rule, the new conditions will tend to fortify the patient's mind and body, it nevertheless may happen that the strain induced by them will be so great as to balance matters the wrong way. It is quite possible, I think, that this, among other causes yet to be considered, may account for the increased and increasing frequency of psychical disorders after ovariotomy. In November, 1882, I removed a thirty-four pound tumor from a woman who was ill with a form of insanity for which she had been kept in an asylum for a year. The operation was made at her home, where, with the kind care and sympathy of her husband and her physician, she made a good recovery. Her mind was soon restored and she has since born two beautiful children into the household, over which she continues to preside with dignity and character. I am persuaded that if the operation had been made elsewhere the result would have been different.

These little matters, which of late are not always considered, do, sometimes, weigh in favor of the home-plan. If the patient's residence is not too old and dirty or neglected, and its internal sanitary conditions are what they should be, with good air and plenty of it around and within the building, and if her circumstances will command the proper nursing and professional care without any social nuisance or interference, her own preference may be regarded and should be respected.

In quite a number of my cases the parties concerned have rented a house or rooms in a village, and so have brought the patient from the country to the town, where she would be within easy reach of my friend, the local doctor, who had charge of the after-treatment. When I went to California to operate in March, 1888, one husband bought a house and another rented one in Santa Ana for this express purpose, and through the excellent after-care of Dr. Willella Howe, both patients recovered. One of my most successful ovariotomies was made in a room directly over a noisy, dirty blacksmith shop; another, and a desperate one, too, in an Irish shanty below the sidewalk, on Quincy St.; a third, and one of the most unpromising that anybody ever had, in a room immediately over a neglected cistern. Under the care of Dr. C. N. Hazelton, of Morrison, Ill., the last of these had the benefit of the aseptic treatment, but the others had nothing of the kind.

These and similar experiences show that good results are possible outside of the special hospitals, which it has been claimed are indispensable to success, and that, if for any reason, recourse cannot be had to them, we may do well to operate elsewhere, the same as in laparotomy for gun-shot wounds, in cholecystotomy, nephrectomy, etc.

The simple fact is, that while it may not always be best that this or any other operation should be made in the patient's house rather than in the hospital, if a home is really fit to live in, or to die in, it is as fit *per se* as any other place for this kind of work. Or if it is not already so, it can very easily be made so.

Given the proper sanitary conditions that every good home, as well as every good hospital should possess, the choice will turn (1) upon the possibility of exempting the patient from other and added risks of infection; (2) of having the proper skill at hand for emergencies, and (3) of obtaining the good nursing and care which are so requisite and which are promised, but are not always furnished in the

hospital. If the family physician is treating all kinds of cases, and comes to one of these patients whose abdomen has been opened direct from those who are down with infectious diseases; or if he knows but little and cares less about the modern gospel of cleanliness and asepsis as applied to surgery in the care of the drainage tube and the dressing of the wound, the chances are against recovery. If the patient's home is some miles away in the country and the roads are bad; if the doctor has no office-hours and no telephone; or if, being obliged to be off on his rounds, nobody knows where he is when he is most urgently needed, the emergencies of the first week especially may cost the woman her life. If she must have a catch-nurse who will not obey orders implicitly, or who, from a lack of experience or of good sense, has no resourses of her own; or even one who has been trained to do the right thing at the wrong time, or who is not truthful, or who is lazy and unsympathetic, it is far better that she should go to a good hospital where these disadvantages can usually be overcome.

But it should be remembered that these drawbacks to recovery do not apply to the home-plan exclusively. There are physicians all over the country who are thoroughly competent to take the professional charge of the after-treatment in these cases. I am many times their debtor for what they have done for some of my patients. And there are many excellent and trustworthy nurses up and down the land who are endowed with a genius for taking care of these post-operative cases, although they may not be dressed in the conventional garb of the training-school graduate.

By the same token there are hospital physicians and nurses of the accidental sort who are not adapted and who never can be, to this particular function. Such assistants will sometimes ruin the best work of the best operator, and spoil his record in spite of all that he can do. I have been very fortunate in this respect, and the possibility of such an obstacle is mentioned in this connection only because it is almost as likely to occur in the city as in the country, in the hospital, whether general or special, as in the well-ordered home.

The advantages of good hospitals are generally understood and conceded. They are, or should be, always ready for occupancy, sweet and clean, free from the germs of infection, whether these germs are latent, or if they are

brought by the doctors, the attendants, or the visitors. They are, or should be, equipped with physicians and nurses of skill and experience, who are ready to do the best that can be done in a given case ; whose services will be available at all times, and who will be responsible for any neglect or oversight in the care of the patient. They are supposed to furnish the best and the most suitable food, and all the facilities for promoting the comfort and the convalescence of the woman who has survived the immediate operation. Indeed, they contract to prepare her for the ordeal, and to avert any avoidable mischief that might be lurking and serious but for this timely precaution.

All these and other requirements are more or less perfectly met by the modern hospitals which, thanks to a more general enlightenment, are being more fully and justly appreciated by the American people. And it is fitting that the women who have done so much for the building up of these charities should derive the greatest benefit from them when they are ill, and in need of our special services.

(*To be continued.*)

3. IODOFORM POISONING ; A GOOD TEST FOR IODINE IN THE URINE. By E. M. BRUCE, Analytical Chemist.—At the request of the Editor of the CLINIQUE, I have been giving some special attention to the detection of iodine in the urine, and beg leave to submit the following :

The writers on "Urinary Analysis" have but little to say on this subject. McMunn, in his recent work, under the head of "Detection of Drugs, etc.," makes mention of two methods, namely : fuming nitric acid and the chlorine water-carbon disulphide.

The fuming nitric acid test is not a very delicate one, and requires considerable manipulative skill to perform it : and in the chlorine water-carbon disulphide method, the reaction may be entirely masked by an excess of chlorine water. A solution of nitrogen titroxide in sulphuric acid gives very delicate results, but the reagent is not easily obtained.

The following method is sometimes used in inorganic qualitative analysis, and has in my hands been most satis

factory in urinary analysis. It is extremely delicate and easily performed:

To about 10 c. c. of urine add 1 c. c. of hydrochloric acid, and about the same amount of a ten per cent solution of ferric chloride ($Fe._2 Cl._6$) and shake vigorously; then add 2 c. c. of carbon disulphide and shake again. The carbon disulphide will gather in a layer at the bottom of the test-tube, and if iodine be present, will be colored violet. The intensity of the color depends upon the amount of iodine. Mere traces impart only a pinkish tinge, but any noteworthy amount gives a decided violet color.

It is hardly necessary to say that iodine is not present in urine as free iodine, but in the form of some iodic compound. When present by the absorption of iodoform (CHI_3), the iodine is most probably in the form of potassic or sodic iodide or iodate; and in order to detect it by means of carbon disulphide it is necessary to set it free. And for this reason the ferric chloride is added, as it has the power of freeing iodine from its alkaline compounds according to the reaction: $Fe._2 Cl._6 + 2 K. I. = 2 Fe. Cl._2 + 2 K. Cl + 2 I.$

The hydrochloric acid is added to keep the phosphate of iron, which would otherwise be precipitated and fog the test, in solution.

The violet color is due simply to the solution of iodine in carbon disulphide.

Hospital Notes.

THE SURGICAL CLINIC.

SERVICE OF PROF. G. F. SHEARS.

CANCER OF THE BREAST.—Mrs. G., age 44 years, sent by Dr. Bartlett. About seven years ago she noticed a hard lump, about the size of an almond, in the upper part of the left breast. The growth remained stationary until about two years ago, when it began to increase rapidly. It now involves the greater portion of the gland. Retraction of the nipple commenced about one year ago, and gradually a portion of the gland itself has become retracted until now there is a deep depression three and one-half inches long, extending from above downward and outward. (See figs. 1 and 2). For the past two weeks she has felt sharp darting pains through the breast. There is no history of injury that she can recall. She was married at the age of 21, has had five children, but never had any difficulty in childbirth nor with the breast during lactation.

There is no history of malignant or other growths in the family. The entire gland, including the involved skin, together with the axillary glands, were removed and the integument brought together making a clean line of incision. Under an antiseptic dressing the wound healed rapidly, and the patient was able to return to her home in two weeks.

In the removal of a growth of this kind it is necessary not only to remove the part apparently diseased, but the entire gland as well. It is impossible to differentiate between the healthy and the diseased gland tissue. According to Heidenhain every mamma in which a single cancer-node exists is largely, perhaps totally, diseased. Microscopical examinations made by him showed the epithelial cells of the acini proliferating in all parts of the mammæ. A single portion of the gland remaining may be the cause of recurrent growths. Even the retro-mammary fat may contain proliferating cells. In order to be sure of complete removal it is advisable to remove not only the gland but the fascia of the pectoralis major. In tumors adherent to this

muscle a large part of it should be sacrificed. In the present case you will notice that I removed a large portion of the pectoralis major, because I found the gland to be firmly adherent to it.

This tumor has a peculiar appearance. The breast seems smaller than the other, and has a deep crease running from above downward through its diameter, apparently dividing the breast into two parts. (See figs. 1 and 2).

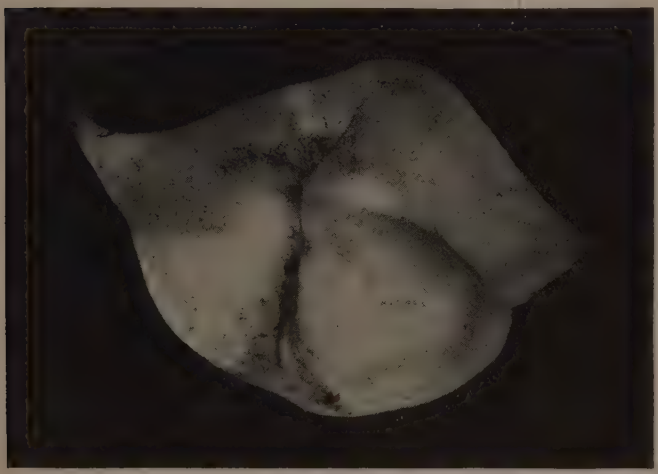

FIG. 1.

This peculiar appearance is due to the cicatrizing tendencies of the growth which, contrary to all other forms of cancer, seems to diminish the size of the gland instead of increasing it. The extremely fleshy condition of the patient made it impossible for me to feel any enlargements in the axilla; but there was slight sensitiveness to pressure. This with the fact that the tumor had existed for so long a time, made me fearful of glandular involvement in the axillary space. So I extended the incision into the axilla, and explored the space thoroughly. As expected, I found under the pectoratis major as it turns to form the anterior axillary

wall, a hard indurated mass, which is undoubtedly cancerous. This I removed, and with it the axillary lymphatics which seemed enlarged though not indurated, for it is probable that their close proximity to this infected mass has not let them escape unscathed.

In performing this latter part of the operation, which is more dangerous than any other, let me urge upon you the necessity of care in disturbing the natural relations of the parts. It is so easy, while rapidly working to remove an

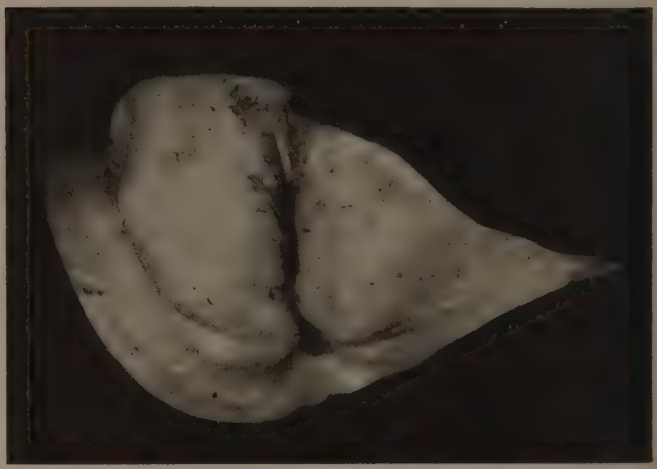

FIG. 2.

indurated mass, to pull upon the tissue to be removed. You do not feel afraid of damaging the axiliary vessels because you know when the arm is extended that they are quite close to the head of the humerus and you are still some distance from the dangerous point. But in cases of this kind in which the tissues are bound together by cancerous infiltration, the vessels are often quite closely connected to the diseased tissue and easily moved with it, so that when you pull upon the diseased tissue the vessels themselves are pulled away from their normal resting place and may be easily injured.

MAMMITIS SIMULATING MALIGNANT DISEASE.—S. C., age 11 years. About four months ago a little nodule appeared in the right breast. It has gradually increased until it is now about the size of a hickory nut. Its margins, however, are not easily defined. Sharp sticking pains are felt in the gland. Eleven years ago she had a little brother who died from a cancer in the eye. Several other members of her father's family have also died from cancer. The right axillary and cervical glands are somewhat enlarged.

This little case is an interesting one because of its possibilities. Several members of the family have died of cancer. The brother died from cancer of the eye, as reported, probably sarcoma, and now this little one presents an abnormal enlargement in an organ which is frequently the seat of malignant disease.

I do not wonder that her parents are worried, for there are many good reasons for fearing an outbreak of the disease which has proved so fatal to so many of their family The family history, the sharp sticking pains, the rapid growth, the enlargement of contiguous glands, are facts which, were the patient older, would determine us in our diagnosis of malignant disease. The age of the patient is not in itself sufficient to prevent a possibility of either carcinoma or sarcoma. For although cacinoma is rarely found in the breast before the fortieth year, and sarcoma seldom before adult life, in exceptional instances the breast has been invaded before the age of puberty. While giving full weight to these facts, I am inclined to believe that instead of the commencement of malignant disease, we have here simply a chronic inflammation of the breast, the result, probably, of some reflex nervous action, produced by the effort to establish menstruation. The enlargement of the neighboring glands may be explained in the same way. Indeed, the almost simultaneous enlargement of several organs is one of the most favorable indications. For it is rare indeed that carcnioma or sarcoma commences as a multiple tumor.

It is not uncommon in scrofulous subjects for a whole chain of lymphatics to become involved at this period.

Special symptoms in this case point to pulsatilla, which she will take in the third potency three times a day.

The patient reported regularly for four months, at the end of which time all enlargment, pain and tenderness had disappeared.

NECROSIS OF THE FEMUR.—W. P., age 24 years, received an injury to the hip one and one-half years ago by falling against a wagon wheel. Four days later was taken with a low type of fever, which continued for three months; during this time had severe pain in left thigh. About eight months ago an opening appeared on the outer part of the left thigh, near the knee. Shortly after another appeared upon the posterior surface of the thigh. From both of these was a profuse discharge of pus. The outer opening is about three and one-half inches above the external condyle. Introducing a probe into this opening, it is found to pass backward and downward into the popliteal space. Turning the probe a little upward it comes in contact with diseased bone. There is no doubt that the low grade of fever, from which this patient is said to have been suffering for about four months, was due to the destructive changes taking place in the femur and to the presence of the pus, which had not yet made an outlet.

An incision was made down to the bone, the diseased bone removed, and the pus cavity in the popliteal space thoroughly cleaned and drained. The wound healed nicely in about two weeks.

During the application of the dressing Professor Shears made the following remarks concerning iodoform: The value of iodoform as an antiseptic has been quite generally recognized by surgeons since the publications of Von Mosetig-Moorhof, in 1880, and it has been almost universally used as a dressing by those who believed in the theory of germ disease. Under its use asepsis has been maintained and in general the healthfulness and healing of wounds have been promoted. You can understand the consternation of its friends when the statement was made by competent investigators and supported by undoubted experimental proof that iodoform is not a germicide, that it does not destroy or even seriously impede the growth micro-organisms.

Nevertheless, you see I dust this wound with iodoform, not because I do not recognize the truth of the statement first made by Heyn and Roosing, but because I accept the further statement that while not a destroyer of germs it is an aid in preventing germ action. It seems probable from experimentation that germs are active in their destructive work when ptomaines which are formed in the tissues as a result of the action of germs upon the tissue are not neutralized by some destructive agent. Now, iodoform, while it does not kill the germs does destroy the ptomaines, the product of bacteria. Then iodoform removes the fertile soil if it does not attack the germ direct.

It cannot take the place of corrosive sublimate as a germicide, but to prevent the formation of poisonous products or neutralize them when formed it may still occupy an honored place among our dressings. In pyemia, septicæmia or erysipelas it cannot be expected to be of service.

You must not forget when considering the use of iodoform, that some persons are extremely sensitive to its action and in such cases it cannot be used without disagreeable results. In a small minority of cases it produces irritation, inflammation and an ulceration of the skin. Although I have used it for several years, it was only recently that such a case came under my observation. In this, wherever the iodoform touched the skin it was extremely irritated and in several places blisters were raised. The irritation of the iodoform gave us more inconvenience than the wound itself, for the latter healed by first intention, without pain or annoyance, while the ulceration produced by the iodoform was very slow to heal. While upon this subject I want to say a word about the use of iodoform in burns. Dusted into the raw surface, covered with gauze and rubber tissue, it has proved one of the most useful of remedies in treating burns of the first, second and third degrees, permitting of the retention of the dressing for a long time, even until the wound has healed, and being accompanied by little or no pain, but

occasionally you find a sensitive subject to whom the iodoform proves most irritating. I remember that after having used this line of treatment for some time with almost uniform success, I was called upon to treat a young lady who was suffering from a burn of the arm, second degree. The wound had been dressed with some oily preparation, and the patient was comfortable. I told her I would apply a permanent dressing, and made the iodoform dressing. She complained at once of a burning sensation. I thought it temporary, but the next day was obliged to remove and change the dressing on account of the irritation produced. I speak of these cases not to discourage you in the use of this valuable agent, but in order that you may be awake to the possibilities of danger in its use.

TUBERCULOSIS OF THE TESTES. CASTRATION.—J. B., age 39. Three years ago his left testicle began to trouble him, and a slight swelling appeared on its lower portion. For some time he suffered severe pain, but under constitutional treatment and warm local applications the testicle gradually assumed its normal size and the pain subsided. As the left testicle grew smaller, the right testicle began to increase in size and cause him pain similar to that felt upon the left side. About three months ago an abcess formed in the testicle and discharged. Since that time there has been a constant discharge of pus and the pain has become very severe, extending up the back and down the thigh. He is very weak and emaciated. His mother died of tuberculosis when he was quite young. His father is supposed to have died of the same disease. Diagnosis, tubercular degeneration of the testicle, and castration was advised.

Accordingly the diseased testicle, its envelope, and all inflamed skin was thoroughly removed. The wound healed in two weeks without suppuration, and the patient's general health rapidly improved.

There is no doubt that castration should be performed much earlier in tuberculosis of the testes than is usually the practice. The possibilities of spontaneous cure are so few, the extension to neighboring parts so rapid, and the results so distressing that no time should be lost in removing this local source of affection. The removal of a tuber-

culous testis may be of great benefit to the patient even if the lungs are affected. By this means the patient is relieved from a weakening discharge and enabled to get open air exercise. The disease usually extends to the bladder, kidney, the vesiculæ seminales or prostate; but it is interesting to note, as is reported by Mr. Bennett, that in many cases the spinal cord becomes affected before any part in the immediate neighborhood of the testes.

NECROSIS. AMPUTATION.—J. C., age 15 years. Six months ago this boy complained of toothache and applied for relief to a dentist, who extracted the first bicuspid. A few hours later the face began to swell rapidly. Four days afterward it was lanced just below the eye and a quantity of pus discharged. Pus also discharged from the cavity left by the extraction of the tooth. Five days after the extraction of the tooth the left leg began to enlarge, causing great pain. Four days later it was lanced over the inner maleolus and a large quantity of pus discharged. Abcesses have been opened in several other places between the ankle and knee. The present condition of the patient is as follows: A small abscess exists just below the inner canthus of the eye, near the malar bone. The ankle of the left leg is very much swollen and several sinuses may be traced down between the articular surfaces of the bones. The knee is tender and inflamed. A number of sinuses are found upon the surface of the tibia, all of which lead to diseased bone. The patient is weak, emaciated and troubled with night sweats. An operation was advised to consist in the first place of an examination into the condition of the ankle-joint and bones of the leg. If these were found to be so badly diseased as to make restoration of the function impossible, the leg was to be amputated. After consultation with my colleague, the latter was deemed best, and an amputation was made just above the knee. The abcesses upon the face were opened and thoroughly cleansed. The flaps healed readily, but the abscesses on the face still continued to discharge. Accordingly one month later the abscess near the inner canthus was thoroughly laid open, the diseased nasal bone underneath removed and drainage made through the nostril. This wound having healed, the abscess near the outer canthus was opened and the malar bone was found to be diseased. The diseased bone was removed with a chisel and perfect drainage was established by making an opening into the mouth

and stitching in a small rubber tube. The wound healed in due time, and the patient is now thoroughly well. Although the extraction of a tooth is usually considered a minor operation, it is not infrequntly followed by severe results. It was but a short time ago, that my friend, Dr. Glaser, brought to me a patient with an ununited fracture of the lower jaw, the result of a too vigorous removal of a molar tooth; and but a few days ago, Dr. Parsons called me to his assistance for the removal of necrosed bone from the lower jaw, following the extraction of a tooth.

HOSPITAL ITEMS.—The plans for the new hospital building have been drawn and we only await the formal adoption by the proper authorities to begin the erection of the east wing.——In the meantime the old hospital is being thoroughly cleansed and rejuvenated under the auspices of M. Tony, our special artist.——About thirty students are in attendance upon the summer clinics, which are very full and very interesting. The *thirty-first* Annual Announcement and Catalogue of the school and hospital can be had by addressing Prof. Bailey, Registrar, 3034 Michigan ave., Chicago.——At last accounts Prof. Leavitt was in London, but he will return in season to look after the Obstetrical and the Children's Clinic with his old-time zeal and thoroughness. *Vive la clinique!*

Miscellaneous Items.

Our Portrait Gallery is graced with an excellent likeness of the indefatigable President of the Alumni Association of the "Old Hahnemann," Dr. O. W. Carlson, of Milwaukee.——The new locations are Dr. Mary W. Cronemiller, 418 J. St., Sacramento; Dr. Jean E. Deweese, 2100 Mason St., San Francisco; Dr. L. G. De Haven, San Francisco; Dr. Rachel B. Lain, Clifton Springs, N. Y.; Dr. W. E. Fruit, 3204 Cottage Grove Ave., Chicago, and Dr E. J. Straub, Riverside, Ill.——Q is informed that the recommendation of Tokay wine in debilitated conditions at page 79 referred to Lorenz Reich's Tokayer Ausbrusch. ——Of deaths during the month we have to chronicle that of our lamented friend, Dr. Mortimer Slocum, of Texas, son-in-law of Dr. D. S. Smith, and who twenty-five years ago was a partner of Father Small; of our old and gifted friend, Dr. E. M. Colburn, President of the Peoria Scientific Association, at the age of 77; of Dr. W. H. Byford, one of the oldest gynecologists of Chicago; and the sad and very sudden death of Sarah E. S. Hawkes, the wife of our colleague, Prof. Hawkes, May 29.——The Illinois State Hom. Med. Association has honored itself by electing Prof. Laning to its Presidency.——The Southern Journal of Homeopathy strikes the following note of appreciation: "The Clinique, of Chicago, a less boastful journal than others, but an excellent exchange nevertheless, is very greatly improved this year. Dr. Bailey is a splendid journal man. His hand and head show all the way through each number."——Dr. S. M. Spaulding '79, of Minneapolis, has been chosen President, and Dr. D. A. Locke '84, Treasurer of the Minn. Hom. Med. Society for the next year.——Miss Caroline Matilda Fellows, only daughter of Prof. Fellows, was married to Mr. Harry A. Walker, May 28th.——The remaining $10,000, making $20,000, the total

bequest from Miss Phoebe Smith to the Hahnemann Hospital of this city, has been paid to Dr. T. S. Hoyne, Treasurer.——The Journal of Materia Medica for May copies Prof. Fellows' lecture on Narcolepsy, published in our last issue.——Prof. Dunn has been ill with an abscess in the middle ear, but is now convalescent.——At its late meeting the Illinois Hom. Med. Association adopted the following:

"*Whereas*, Being fully aware of the fact that if we would receive our rights, we must assert them; therefore, be it

"*Resolved*, That we not only ask but demand recognition at the hands of the State, by being given the charge of some of our State institutions.

"*Resolved*, That we, as a society, pledge our support to all laudable efforts on the part of our legislative committee toward securing this much-desired result.

"*Resolved*, That the bureau of legislation be instructed to concentrate is efforts to secure homeopathic treatment in one of the State insane asylums to be provided for at the next session of the legislature. To that end we recommend that the bureau of legislation be empowered to enlist the assistance of homeopathic physicians representing each assembly district."

The Bureau of Sanitary Science, Prof. Gilman, Chairman, will report at the next meeting of the Clinical Society, June 28.——Mrs. Dr. Anna C. Hardy has been appointed Physician to the Old Ladies' Home in this city.——Prof. Watry's vacation will extend from June 28 to August 1.——In order to attend to his growing practice in Hyde Park, Prof. Arnulphy has removed his office to his residence, No. 88 53d St.——Everybody is going to the Institute at Waukesha, *pro bono publico*.